

CLAIMS

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent is:

1. A message processing device for communicating with remote units over at least one data network and with at least one dedicated CPU, the device comprising:

a first execution unit for receiving a message to be processed and determining the kind of treatment to be performed with the received message,

a second execution unit for performing said determined treatment, and

a third execution unit for presenting the result of the message processing to be forwarded to a destination unit.

2. The device according to claim 1, wherein said first execution unit comprises a memory device for storing control information being used to determine the treatment to be performed with a received message.

3. The device according to claim 1, wherein said second execution unit comprises a first set of registers for storing message specific information specifying the data contents and said determined treatment of a received message.

4. The device according to claim 2, wherein said second execution unit comprises a first set of registers for storing message specific information specifying the data contents and said determined treatment of a received message.

5. The device according to claim 3, wherein said second execution unit comprises at least one process execution unit having access to said first set of registers for performing said determined treatment.

6. The device according to claim 5, wherein said second execution unit comprises three or more process execution units having access to said first set of registers for performing said determined treatment.
7. The device according to claim 5, wherein said second execution unit comprises a second set of registers being connected to said at least one process execution unit for storing information needed by said process execution unit.
8. The device according to claim 6, wherein said second execution unit comprises a second set of registers being connected to said at least one process execution unit for storing information needed by said process execution unit.
9. The device according to claim 5, wherein said second execution unit is configured to monitor the first set of registers in order to start processing a message once a process execution unit is available for processing.
10. The device according to claim 6, wherein said second execution unit is configured to monitor the first set of registers in order to start processing a message once a process execution unit is available for processing.
11. The device according to claim 7, wherein said second execution unit is configured to monitor the first set of registers in order to start processing a message once a process execution unit is available for processing.
12. The device according to claim 1, wherein said third execution unit is configured to monitor the first set of registers in order to start presenting the result of said message processing once the processing of said message is complete.

13. The device according to claim 2, wherein said first execution unit comprises an interface for configuring said memory device with said control information being used to determine the treatment to be performed with a received message.

14. A message processing device as recited in claim 1, further comprising a switchboard device for providing a communication connection to said data network and to said dedicated CPU.

15. The intercommunication processing device according to claim 14, wherein said switchboard comprises a multiplexer connected to said first and third execution unit and for providing connections to several bus adapters and said CPU.

16. The intercommunication processing device according to claim 15, wherein said switchboard further comprises an interrupt bus connected to the first execution unit and to several bus adapters and said CPU.

17. The intercommunication processing device according to claim 15, wherein said switchboard further comprises a controller for controlling said multiplexer, whereby said controller is configured to be controlled by either said third execution unit or said CPU.

18. The intercommunication processing device according to claim 16, wherein said switchboard further comprises a controller for controlling said multiplexer, whereby said controller is configured to be controlled by either said third execution unit or said CPU.

19. A method for message processing in a system for communicating with remote units over at least one data network and with at least one dedicated CPU the method comprising the steps of:

receiving a message to be processed and determining the kind of treatment to be performed with said received message;

storing message specific information specifying the contents of said received message and said determined treatment of said received message into a first set of registers;

monitoring said first set of registers in order to start processing a message once a process execution unit is available for processing;

performing said determined treatment, whereby said processing is executed sequentially, in parallel both sequentially and in parallel;

monitoring said first set of registers in order to start presenting the result of said message processing once the processing of said message is complete; and

presenting the result of said message processing to be forwarded to a destination unit.

20. The method according to claim 19, further comprising the initial step of storing control information being used to determine the treatment to be performed with a received message.

21. A computer program product stored on a computer usable medium, comprising a computer readable program for causing a computer to perform a method for communicating with remote units over at least one data network having at least on CPU, said method comprising:

receiving a message to be processed and determining the kind of treatment to be performed with said received message;

storing message specific information specifying the contents of said received message and said determined treatment of said received message into a first set of registers;

monitoring said first set of registers in order to start processing said message once a process execution unit is available for processing;

presenting the result of said message processing to be forwarded to a destination unit.

Figure 1 consists of 12 sub-graphs, labeled (a) through (l), arranged vertically. Each graph plots a physiological parameter on the y-axis against time on the x-axis. The x-axis for all graphs ranges from 0 to 10 minutes. The parameters are: (a) HR (b/min), (b) SV (l/min), (c) CO (l/min), (d) MAP (mmHg), (e) PVR (mmHg), (f) SVR (mmHg), (g) PPA (mmHg), (h) PVP (mmHg), (i) PVP/PPA, (j) PVP/PPA, (k) PVP/PPA, and (l) PVP/PPA. Each graph shows a baseline value and a response to a stimulus, with error bars indicating standard error.